

CLAIMS

What is claimed is:

1. An apparatus comprising:
 - a first logic (202) to generate a first signal corresponding to one or more sensed temperature values; and
 - a second logic (204, 252) to generate a second signal corresponding to one or more voltage values; and
 - a third logic (208, 254) to generate a third signal corresponding to a leakage power value based on the first signal and the second signal.
2. The apparatus of claim 1, further comprising a fourth logic (112) to adjust power consumption of one or more components of a computing system (100, 300, 500, 600) based on the third signal.
3. The apparatus of claim 1, wherein the one or more voltage values comprise a current value of a threshold voltage and a current value of a supply voltage.
4. The apparatus of claim 1, further comprising a fourth logic (206) to generate a fourth signal corresponding to a base leakage power value, wherein the third logic generates the third signal based on the first signal, the second signal, and the fourth signal.
5. The apparatus of claim 1, further comprising one or more temperature sensors (108) to sense the temperature values.
6. The apparatus of claim 1, wherein the third logic comprises a multiplier (208, 254) to multiply the first and second signals to provide the third signal.

7. The apparatus of claim 1, further comprising one or more processor cores (300), wherein at least one of the one or more processor cores comprises one or more of the first logic, the second logic, or the third logic.
8. The apparatus of claim 1, further comprising one or more processor cores (300), wherein at least one of the one or more processor cores, the first logic, the second logic, and the third logic are on a same die.
9. A method comprising:
 - determining a temperature scaling value (404) corresponding to one or more temperature values sensed (402) from a device (102);
 - determining a voltage scaling value (404) based on one or more voltage values corresponding to the device; and
 - scaling a reference leakage power value (406) of the device based on the temperature scaling value and the voltage scaling value to generate a signal corresponding to a leakage power of the device.
10. The method of claim 9, wherein the sensing and scaling are performed during run-time of the device.
11. The method of claim 9, wherein determining the temperature scaling value comprises accessing a storage unit (202).
12. The method of claim 9, wherein determining the voltage scaling value comprises accessing a storage unit (204, 252).
13. A computing system comprising:
 - a memory (202, 206, 204, 252) to store a plurality of bits representing a plurality of scaling factors;
 - a first logic (330) having one or more components to perform one or

more computing operations; and

a second logic (106) to scale a base leakage power value corresponding to at least one of the one or more components based, at least in part, on sensed temperature variations and one or more of the plurality of stored scaling factors.

14. The computing system of claim 13, further comprising a third logic (112) to adjust power consumption of at least one of the one or more components based on the scaled leakage power value.

15. The computing system of claim 13, wherein the second logic comprises a multiplier (208, 254) to multiply a first signal corresponding to a temperature scaling value, a second signal corresponding to a voltage scaling value, and a third signal corresponding to the base leakage power value.

16. The computing system of claim 13, wherein the plurality of the stored scaling factors comprises a plurality of temperature scaling values and a plurality of voltage scaling values.

17. The computing system of claim 13, further comprising one or more processor cores (300), wherein at least one of the one or more processor cores comprises one or more of the first logic, the second logic, or the third logic.

18. The computing system of claim 13, further comprising one or more processor cores (300), wherein at least one of the one or more processor cores, the first logic, the second logic, and the third logic are on a same die.

19. The computing system of claim 13, wherein the one or more computing operations comprise one or more of data processing, data storage, and data communication.

20. The computing system of claim 13, further comprising an audio device (526, 647).